

Remarks

Claims 1, 4-5 and 8 were rejected by the Examiner under 35 USC § 102(e) as being anticipated by Fan (USP 6,624,945). This rejection is respectfully traversed.

Of claims 1, 4-5 and 8, claim 1 is the only independent claim and thus will be addressed first.

In claim 1, as amended in response to the Examiner first action, in last portion states:

“... wherein said reflector includes a dielectric structure having a plurality of dielectric units that are formed into a stack with a spatially periodic variation in dielectric constant, each of said dielectric units including at least three dielectric layers which are different from each other in refractive index and layer thickness ...” (emphasis added)

In the Examiner's stated basis for rejection he states that Fan discloses that:

“... each of said dielectric units including at least three dielectric layers (602, 604, 1104 and 1106)...”

Fan discloses two embodiments of his invention, a first as shown in Fig. 2 and a second as shown in Fig. 6 with the structure shown in Fig. 11 being an extension of the second embodiment of Fig. 6. Layers 602 and 604 are in the second embodiment of Fig. 6 and layers 1104 and 1106 are the same as layers 602 and 604 in Fig. 11.

At col. 2, lines 55-61, Fan describes the first embodiment shown in Fig. 2 as:

“... a simplified schematic block diagram of an exemplary embodiment of a thin film filter 200 in accordance with the invention. The filter 200 includes a cavity region 202 that is surrounded by omnidirectional

reflectors 204, 206. The reflectors 204, 206 include alternating layers of Si 208 and SiO₂ 210, with an index of refraction of 3.5 and 1.5, respectively." (emphasis added)

Using the terminology of the present invention as described in claim 1, Fan's dielectric unit of his first embodiment includes "alternating layers of Si 208 and SiO₂, 210, with an index of refraction of 3.5 and 1.5, respectively...". There are not at least three layers as called for in claim 1 of the instant application.

At col. 3, lines 32-36, Fan describes the second embodiment shown in Fig. 6 as:
"... a schematic block diagram of an exemplary embodiment of a thin film filter 600 in accordance with the invention. The filter 600 is a multi-layer film system, including alternating layers 602, 604 of two materials with large index contrast." (emphasis added)

Again, using the terminology of the present invention as described in claim 1, Fan's dielectric unit of his second embodiment includes "alternating layers 602, 604 of two materials with large index contrast." There are not at least three layers as called for in claim 1 of the instant application.

At col. 5, lines 35-41, Fan describes what is shown in Fig. 11 as:

"Accordingly, the invention provides a way to make the quality factor of TE and TM modes equal, by adding extra layers to the structures, as shown in FIG. 11. FIG. 11 is a schematic block diagram of a filter device 1100 that makes the quality factor of TE and TM resonance equal. The device includes a cavity region 1102 that is surrounded by extra layer regions 1104, 1106."

Yet again, using the terminology of the present invention as described in claim 1,

Fan's dielectric unit of Fig. 11 includes "alternating layers 1104 and 1106" that are equivalent to layers 602 and 604 of Figure 6. There are not at least three layers as called for in claim 1 of the instant application.

Fan does say at col. 4, lines 11-15:

"It will be appreciated that while an exemplary embodiment that employs two materials is used for illustration purposes, the same filter response can also be synthesized with three or more materials, as long as the multilayer film enables a strong rejection at a large incidence angle."

No further disclosure could be found from a reading of Fan on the use of three or more layers. Thus there is no suggestion by Fan that the three or more layers "... each ... are different from each other in refractive index and layer thickness." In fact even for Fan's disclosed embodiments, nothing could be found to even suggest that the layers be of different thicknesses.

Thus, it is respectfully submitted that claim 1 is patentably distinguishable from Fan without further amendment.

Turning now to claim 4 which is dependent from claim 1 and adds the further restriction that "... said dielectric layers includes first, second and third dielectric layers, said second dielectric layer being sandwiched between said first and third dielectric layers and having a refractive index less than those of said first and third dielectric layers, said third dielectric layer having a refractive index less than that of said first dielectric layer.

Nowhere could it be found in Fan that it states, or even suggests, the restrictions of claim 4 highlighted above.

Thus, it is respectfully submitted that claim 4 is patentably distinguishable from Fan without further amendment.

Turning now to claim 5 which is dependent from claim 1 and adds the further restriction that "... said light-generating unit is inlaid at one side of said wavelength-converting member, said reflector being disposed at an opposite side of said wavelength-converting member that is opposite to said one side of said wavelength-converting member."

Nowhere could it be found in Fan that it states, or even suggests, the restrictions of claim 5 underlined above.

Thus, it is respectfully submitted that claim 5 is patentably distinguishable from Fan without further amendment.

And finally turning to claim 8 which is dependent from claim 4 adding the further restriction that "... said first dielectric layer is made from TiO₂, said second dielectric layer being made from SiO₂, said third dielectric layer being made from Ta₂O₅." the only materials disclosed by Fan that could be found in reading his patent are Si and SiO₂, no mention or suggestion of the use of either TiO₂ or Ta₂O₅ could be found.

Thus, it is respectfully submitted that claim 8 is patentably distinguishable from Fan without further amendment.

Therefore, claims 6-7 and 9-11 which the Examiner stated in his action would be allowable if rewritten to be dependent from an allowable independent claim, need not be rewritten to be allowable as it has been shown that rejected claims 1, 4-5 and 8 are each patentably distinguishable from Fan.

All claims being distinguishable from the cited reference, and therefore being allowable, the issuance of a Notice of Allowability is respectfully requested.

Favorable action is therefore respectfully requested.

Respectfully submitted,
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September 18, 2006